

**An Inventory of Groundfish Samples
Collected by Observers on Domestic
Trawlers off Canada's Pacific Coast,
1981-1982**

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August 1983

**Canadian Data Report of
Fisheries and Aquatic Sciences
No. 405**

Canadian Data Report of Fisheries and Aquatic Sciences

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Canadian Data Report of
Fisheries and Aquatic Sciences No. 405

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AN INVENTORY OF GROUND FISH SAMPLES COLLECTED
BY OBSERVERS ON DOMESTIC TRAWLERS OFF CANADA'S
PACIFIC COAST, 1981-1982

by

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Cat. No. Fs 97-13

ISSN 0706-6465

TABLE OF CONTENTS

	Page
Abstract	iv
Introduction	1
Methods	1
Results	3
Table 1. Observer trips: 1981	5
Table 2. Observer trips: 1982	7
Table 3. Observer samples: 1981	
Pacific cod	9
Pollock	11
Sablefish	11
Lingcod	12
Turbot	12
Rex sole	12
Halibut	13
Butter sole	15
Rock sole	16
Dover sole	18
English sole	19
Table 4. Observer samples: 1982	
Pacific cod	22
Pollock	24
Pacific ocean perch	24
Sablefish	24
Lingcod	25
Rex sole	25
Halibut	26
Butter sole	30
Rock sole	31
Dover sole	32
English sole	33

ABSTRACT

Davenport, D., J. R. Selsby, and R. D. Stanley. 1983. An inventory of groundfish samples collected by observers on domestic trawlers off Canada's Pacific Coast, 1981-1982. Can. Data Rep. Fish. Aquat. Sci. 405: iv + 35 p.

Observers from the Pacific Biological Station conducted 33 observer trips aboard B.C. domestic trawlers in 1981 and 1982. The primary purpose of the program was to examine the amount and composition of fish discarded at sea during routine commercial bottom trawling.

The present report summarizes the methods that were used, the distribution of the trips by date and location, and the biological samples and records that were collected.

Key words: discards, groundfish, trawl

RÉSUMÉ

Davenport, D., J. R. Selsby, and R. D. Stanley. 1983. An inventory of groundfish samples collected by observers on domestic trawlers off Canada's Pacific Coast, 1981-1982. Can. Data Rep. Fish. Aquat. Sci. 405: iv + 35 p.

Des observateurs de la Station de biologie du Pacifique ont réalisé 33 voyages d'observation à bord de chalutiers canadiens de la Colombie-Britannique, en 1981 et 1982. Ce programme visait premièrement l'examen de la quantité et de la composition des prises rejetées à la mer au cours des opérations courantes de chalutage commercial sur le fond.

Le présent rapport résume les méthodes utilisées, la répartition des voyages selon la date et l'endroit et, enfin, les échantillons et les données biologiques recueillies.

Mots-clés: quantités rejetées, poissons démersaux, chalut

INTRODUCTION

Staff from the Pacific Biological Station at Nanaimo conducted a total of 33 observer trips aboard B.C. domestic trawlers in 1981 and 1982. The primary purpose of the program is to collect background information on the amount and composition of fish discards at sea during normal commercial trawling operations.

The data will be used to quantify the impact of discarding on the productivity of the various stocks and to upgrade the catch data upon which groundfish stock assessments are largely based.

Our objective for the first two years of observations has been to examine the situation from as broad a perspective as possible. Continuing work will examine more specific questions as well as monitoring year-to-year variability.

The purpose of this data report is to acquaint potential users of the data with the methods that are being used and to summarize the sample data that have been collected. Actual discard analyses for individual species will be presented in subsequent reports as considered appropriate.

METHODS

The basic procedure involved having an observer accompany a fishing vessel for a complete fishing trip. While on board, the observer collected information on the location and depths of all hauls, recorded weight estimates of all species captured, and sampled both keepers and discards of commercial species.

Participation in the program was voluntary on the part of the fishing skippers. From opportunities presented, selection of trawl trips was made on the basis of area to be fished and the planned target species. Hecate Strait and Queen Charlotte Sound were primary and secondary priorities, respectively. English sole, rock sole, Pacific cod, sablefish and halibut were the primary species to be sampled. Trips which were expected to concentrate on rockfish were avoided as there are virtually no discards associated with these fisheries.

For each trip, the observer first collected general information for the trip as a whole. This information included date and port of landing, processor, and fish chilling procedure. When agreed to by skippers, the general net specifications were also recorded.

Information taken with each haul included the date and haul number, location, time of start and finish, Loran position at start and finish, plus depth information. The latter information included: depth mode as the depth

at which most of the haul was made; target depth as the depth aimed for when the gear was set; and the depth range. In the first trips, range was the depths at the beginning and end of the haul, or at the turning point if the vessel doubled back on the haul or altered course drastically during it. On later trips this was the maximum and minimum depths attained through the haul.

Estimates of total catch weight and species weight were made for every haul. The filled portion of the cod-end below the splitting strap contained a roughly known weight, multiples or portions of deck pens filled gave a second estimate. Species dominating the catch were estimated as a percentage of the total and then converted to pounds. Minor portions of the total were estimated directly in pounds. For species which were sorted by size into discards and keepers, we estimated the respective proportions, and after sorting and sampling was completed used the sample results and fishermen's estimates to verify or adjust them.

Estimations of halibut discards was conducted differently, taking one of three forms. When possible, we measured all halibut prior to release for conversion later to total weight, with the following formula (I. McGregor, I.P.H.C. pers. comm.):

$$\text{Weight (lbs)} = 0.0000092043 \times \text{Length (cm)}^{3.24}$$

If it wasn't possible to measure all halibut, then an attempt was made to obtain a total count. If a count was not possible owing to conflicting sampling duties, then a visual estimate of total weight was recorded. A greater emphasis was attached to measuring and counting halibut in 1982.

When the total catch was aboard, the crew began the sorting process. Marketable sized fish of commercial species were picked or pawed into separate deck pens, baskets, or directly into the ice-hold or tanks. Discards of these species plus all non-commercial and prohibited species were left on deck for later disposal or allowed to pass through the scuppers as sorting progressed. If baskets were utilized, weight per basket times number of baskets provided estimates of total weight; if deck pens, a volume-weight estimate was used; if put directly below, close observation and/or the crew's estimate provided the most accurate figure. If a pre-sort sample was taken, the keeper-discard ratio found could be applied to the whole catch of that species if thought to be appropriate.

Choice of species sampled was based on (a) target species for the haul; (2) abundance of that species within the haul (minimum of 75 fish for a sample); and (3) number of samples of a given species already taken on the ground. Halibut, sparsely sampled in 1981, were sampled approximately every fourth haul in 1982, more often when catches contained no species of higher priority or when sampling was light.

Samples were either "pre-sort", "discard" or "keeper". A pre-sort sample was a representative collection of the chosen species taken before the crew had done any separating of keepers from discards. "Discard" samples were taken from what was left of the selected species after the crew had removed the keepers. "Keeper" samples were a collection of those kept by the crew.

Pre-sort samples were sorted by the observer into keepers and discards at the designated market size limit to provide a backup estimate of the proportion. The division point was rarely identical to the sorting by the crew. There was invariably an overlap of discards into the keepers and, to a lesser degree, keepers into the discards. Crew cooperation in permitting the observer to collect his sample unhindered, or in assisting with the collecting and handling was always excellent and greatly appreciated.

Samples were collected in rectangular plastic baskets through which water could freely drain. Filled baskets were brought to the sampling area, the fish measured to the nearest centimeter, and, in a pre-sort sample, separated into keepers and discards and weighed accordingly. Weighing was a one-man job using a fulcrum bar between lifting bridle and hanging scale (Selsby, in prep.). Weight varied between 35-50 kg per basket depending upon species and sizes.

In 1982 sampling, discards were generally sexed, keepers could not be, as opening the visceral cavity contaminated the ice or brine in which they were stored. Sexing of very small discards (19 cm or less) was not attempted. At times, malformation or mutilation of the gonads made sex identification of a mature fish impossible, these were recorded as unknown as opposed to un-examined.

The keeper-discard division size for a given species often varied within the fleet. Processing plant size limits varied slightly, depending upon their markets. Vessel selection varied depending on the captain/crew interpretation of the processors' limits and, on some boats, the general size of each commercial species within each haul as well as the mix and total catch of the haul. Sorting also varied between consecutive trips by the same boat.

Upon completion of an observer trip, the information was encoded and then stored directly on the PBS computer using an interactive input procedure. The data is stored in four formats corresponding with the bridge-log data, catch data, sample background data and biological or individual fish data.

RESULTS

We have shown in Table 1 and Table 2 the distribution of trips by date and location for 1981 and 1982. This will provide an indication of the times and locations for which we have catch information.

Tables 3 and 4 show the inventory of samples by species, location, month and sample type for 1981 and 1982 respectively. Species are ordered by code number in ascending order.

ACKNOWLEDGMENTS

The examination of discarding would of course not be possible without voluntary participation by trawl skippers and their crews. We are grateful to the individuals who have cooperated and assisted with the study. We would like to point out that this cooperation reflects their genuine desire to assist with the rational exploitation of B.C. groundfish resources.

Table 1. OBSERVER TRIPS : 1981

TRIP CODE	VESSEL CODE	LANDING DATE	MAJOR	MINOR	NUMBER OF HAULS
8101	376	13/03/81	05	11	6
			06	08	7
8102	376	10/04/81	05	11	3
			06	08	21
			07	02	2
			07	06	3
8103	372	20/04/81	07	02	2
			08	05	15
8104	372	28/04/81	08	04	5
			08	05	13
8105	259	30/04/81	08	04	15
8106	259	07/05/81	08	04	16
8107	386	14/05/81	07	02	4
			08	05	19
8108	380	14/05/81	08	03	1
			08	04	22
			08	05	10
8109	386	28/05/81	07	02	11
			07	06	1
			08	05	20
8110	360	13/06/81	05	11	5
			06	08	30

Table 1 (cont'd)

OBSERVER TRIPS : 1981

TRIP CODE	VESSEL CODE	LANDING DATE	MAJOR	MINOR	NUMBER OF HAULS
8111	387	27/07/81	06	08	34
8112	372	19/08/81	07 07 08	02 06 05	4 11 14
8113	380	27/08/81	08	04	22
8114	445	08/09/81	08	04	21
8115	445	16/09/81	07 07 08	02 06 04	5 1 8
8116	424	19/09/81	08	04	8
8117	376	07/10/81	05 06	11 08	4 20

Table 2. OBSERVER TRIPS : 1982

TRIP CODE	VESSEL CODE	LANDING DATE	MAJOR	MINOR	NUMBER OF HAULS
8201	424	22/02/82	08 08	04 05	21 1
8202	295	29/03/82	08 08	04 05	10 10
8203	376	01/04/82	05 06 07	11 08 02	7 7 5
8204	376	12/04/82	05 06 07 08 08	11 08 02 04 05	2 5 6 4 18
8205	295	12/04/82	08 08	04 05	12 11
8206	338	12/05/82	05 06	11 08	15 15
8207	363	17/05/82	05 06	11 08	12 12
8208	259	17/05/82	08	04	20
8209	383	26/05/82	08	05	22
8210	383	01/06/82	07 08	02 05	11 13

Table 2 (cont'd)

OBSERVER TRIPS : 1982

TRIP CODE	VESSEL CODE	LANDING DATE	MAJOR	MINOR	NUMBER OF HAULS
8211	422	29/06/82	05 06	11 08	12 29
8212	424	26/07/82	08	04	24
8213	383	09/06/82	07 07 08	02 06 05	26 1 5
8214	445	19/09/82	08	04	41
8215	445	28/09/82	07 08 08 08	02 03 04 05	7 1 16 2
8216	424	29/11/82	05 07 08	11 02 05	4 8 5

Table 3. PACIFIC COU : OBSERVER SAMPLES 1981

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 05							
11	31/03/81	8102	2	PRE-SORT	133	YES	YES
11	09/06/81	8110	11	DISCARDS	150	YES	YES
11	09/06/81	8110	12	DISCARDS	238	YES	YES
MAJOR= 06							
08	11/06/81	8110	20	PRE-SORT	173	YES	NO
08	11/06/81	8110	21	DISCARDS	79	YES	YES
08	12/06/81	8110	24	DISCARDS	113	YES	YES
08	12/06/81	8110	25	DISCARDS	85	YES	YES
08	12/06/81	8110	27	DISCARDS	81	YES	YES
08	20/07/81	8111	3	DISCARDS	38	YES	NO
08	21/07/81	8111	11	DISCARDS	91	YES	YES
08	11/03/81	8101	5	PRE-SORT	148	YES	NO
08	01/04/81	8102	6	PRE-SORT	54	YES	YES
08	03/04/81	8102	9	PRE-SORT	77	YES	YES
08	03/04/81	8102	10	PRE-SORT	129	YES	YES
08	06/04/81	8102	14	PRE-SORT	81	YES	YES
08	06/04/81	8102	15	PRE-SORT	87	YES	NO
08	07/04/81	8102	17	PRE-SORT	92	YES	NO
08	07/04/81	8102	18	PRE-SORT	85	YES	NO
08	07/04/81	8102	19	PRE-SORT	95	YES	NO
08	08/04/81	8102	21	PRE-SORT	75	YES	NO
08	08/04/81	8102	22	PRE-SORT	96	YES	NO
08	03/04/81	8102	11	KEEPERS	91	YES	YES
08	06/04/81	8102	13	KEEPERS	124	YES	NO
08	02/10/81	8117	7	PRE-SORT	110	YES	NO
08	02/10/81	8117	9	PRE-SORT	75	YES	NO
08	03/10/81	8117	15	PRE-SORT	76	YES	NO
MAJOR= 07							
02	09/04/81	8102	28	PRE-SORT	152	YES	NO
02	09/04/81	8102	29	PRE-SORT	80	YES	NO
06	09/04/81	8102	25	PRE-SORT	88	YES	NO

Table 3 (cont'd)

PACIFIC COD : OBSERVER SAMPLES 1981

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 08							
04	26/04/81	8105	1	PRE-SORT	124	YES	NO
04	26/04/81	8105	2	PRE-SORT	154	YES	NO
04	26/04/81	8105	3	PRE-SORT	153	YES	NO
04	28/04/81	8105	5	PRE-SORT	170	YES	NO
04	28/04/81	8105	6	PRE-SORT	151	YES	NO
04	29/04/81	8105	12	PRE-SORT	176	YES	NO
04	29/04/81	8105	13	PRE-SORT	79	YES	NO
04	03/05/81	8106	2	PRE-SORT	150	YES	NO
04	03/05/81	8106	3	PRE-SORT	165	YES	NO
04	04/05/81	8106	5	PRE-SORT	191	YES	NO
04	05/05/81	8106	8	PRE-SORT	186	YES	NO
04	06/05/81	8106	11	PRE-SORT	152	YES	NO
04	06/05/81	8106	13	PRE-SORT	155	YES	NO
04	07/05/81	8106	15	PRE-SORT	180	YES	NO
04	03/05/81	8106	1	DISCARDS	99	YES	NO
04	12/09/81	8115	2	KEEPERS	81	YES	NO
04	24/04/81	8104	6	DISCARDS	60	YES	YES
04	11/05/81	8108	20	PRE-SORT	231	YES	NO
04	03/09/81	8114	4	KEEPERS	98	YES	NO
04	15/09/81	8115	13	KEEPERS	120	YES	NO
05	15/04/81	8103	1	PRE-SORT	47	YES	NO
05	16/04/81	8103	3	PRE-SORT	116	YES	NO
05	16/04/81	8103	4	PRE-SORT	68	YES	NO
05	16/04/81	8103	6	PRE-SORT	43	YES	NO
05	16/04/81	8103	7	PRE-SORT	21	YES	NO
05	19/04/81	8103	14	PRE-SORT	114	YES	NO
05	19/04/81	8103	15	PRE-SORT	90	YES	NO
05	19/04/81	8103	16	PRE-SORT	35	YES	NO
05	23/04/81	8104	2	PRE-SORT	154	YES	NO
05	25/04/81	8104	11	PRE-SORT	151	YES	NO
05	23/04/81	8104	4	DISCARDS	46	YES	YES
05	25/04/81	8104	12	DISCARDS	193	YES	NO
05	26/04/81	8104	17	DISCARDS	75	YES	YES
05	07/05/81	8107	5	PRE-SORT	46	YES	NO

Table 3 (cont'd)

POLLOCK : OBSERVER SAMPLES 1981

	MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 08								
	04	10/05/81	8108	7	PRE-SORT	128	YES	YES

SABLEFISH: OBSERVER SAMPLES 1981

	MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 06								
	08	08/06/81	8110	6	DISCARDS	81	YES	YES
	08	14/06/81	8110	33	DISCARDS	83	YES	YES
	08	20/07/81	8111	4	DISCARDS	72	YES	YES
	08	20/07/81	8111	5	DISCARDS	75	YES	YES
	08	01/04/81	8102	8	PRE-SORT	116	YES	NO
MAJOR= 07								
	02	21/05/81	8109	1	DISCARDS	39	YES	YES
	02	25/05/81	8109	19	DISCARDS	33	YES	YES
	06	17/08/81	8112	23	PRE-SORT	58	YES	YES
MAJOR= 08								
	04	29/04/81	8105	10	PRE-SORT	92	YES	NO
	05	15/08/81	8112	8	DISCARDS	26	YES	NO
	05	15/08/81	8112	11	DISCARDS	96	YES	YES
	05	16/08/81	8112	14	DISCARDS	100	YES	YES
	05	13/05/81	8108	27	PRE-SORT	293	YES	YES
	05	13/05/81	8108	32	PRE-SORT	149	YES	NO

Table 3 (cont'd)

LINGCOD : OBSERVER SAMPLES 1981

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 05							
11	28/09/81	8117	3	PRE-SORT	21	YES	NO
11	28/09/81	8117	4	PRE-SORT	134	YES	NO

TURBOT : OBSERVER SAMPLES 1981

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 08							
05	15/08/81	8112	7	DISCARDS	25	YES	NO
05	15/08/81	8112	8	DISCARDS	47	YES	NO
05	13/05/81	8108	30	PRE-SORT	218	YES	NO

REX SOLE : OBSERVER SAMPLES 1981

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 08							
05	15/08/81	8112	7	DISCARDS	57	YES	NO
05	15/08/81	8112	8	DISCARDS	39	YES	NO

Table 3 (cont'd)

HALIBUT : OBSERVER SAMPLES 1981

	MINOR AREA	HAUL DATE	TRIP CODE	HAUL	PROPORTION MEASURED	TOTAL NUMBER OF HALIBUT IN TOW	WEIGHT OF MEASURED HALIBUT (KG)
MAJOR= 05							
	11	07/06/81	8110	1	100.0	3	4
	11	09/06/81	8110	11	100.0	4	29
	11	09/06/81	8110	12	100.0	4	14
	11	09/06/81	8110	13	100.0	6	23
	11	09/06/81	8110	10	32.1	53	111
MAJOR= 06							
	08	07/06/81	8110	2	100.0	4	10
	08	11/06/81	8110	20	100.0	4	15
	08	11/06/81	8110	22	100.0	4	19
	08	11/06/81	8110	23	100.0	4	19
	08	12/06/81	8110	24	100.0	8	59
	08	12/06/81	8110	26	100.0	8	43
	08	07/06/81	8110	4	100.0	6	24
	08	08/06/81	8110	5	100.0	7	32
	08	08/06/81	8110	7	100.0	17	131
	08	08/06/81	8110	8	100.0	10	72
	08	08/06/81	8110	9	100.0	5	22
	08	10/06/81	8110	14	100.0	7	31
	08	10/06/81	8110	15	100.0	10	22
	08	10/06/81	8110	16	100.0	8	36
	08	11/06/81	8110	19	100.0	5	14
	08	13/06/81	8110	32	100.0	3	6
	08	14/06/81	8110	33	100.0	3	5
	08	14/06/81	8110	34	100.0	6	32
	08	13/06/81	8110	29	100.0	10	47
	08	13/06/81	8110	31	100.0	9	22
MAJOR= 07							
	02	21/05/81	8109	1	100.0	12	18
	02	21/05/81	8109	4	83.3	18	15
	02	21/05/81	8109	5	100.0	12	107
	02	24/05/81	8109	14	100.0	6	23
	02	25/05/81	8109	15	100.0	12	29
	02	25/05/81	8109	16	100.0	32	86
	02	25/05/81	8109	18	100.0	1	5
	02	14/08/81	8112	1	73.9	23	31
	02	14/08/81	8112	2	85.2	26	49
	02	14/08/81	8112	3	58.6	29	40
	02	14/08/81	8112	4	71.4	14	13
	02	22/05/81	8109	6	100.0	64	125

Table 3 (cont'd)

HALIBUT : OBSERVER SAMPLES 1981

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	PROPORTION MEASURED	TOTAL NUMBER OF HALIBUT IN TON	WEIGHT OF MEASURED HALIBUT (KG)
MAJOR= 07						
06	14/08/81	8112	5	100.0	3	4
06	17/08/81	8112	21	100.0	3	16
06	17/08/81	8112	23	100.0	1	10
06	17/08/81	8112	24	100.0	2	5
06	18/08/81	8112	26	100.0	2	5
06	18/08/81	8112	27	100.0	1	1
06	18/08/81	8112	28	100.0	1	4
06	14/08/81	8112	6	85.7	7	73
MAJOR= 08						
04	03/05/81	8106	2	100.0	35	78
04	04/05/81	8106	4	100.0	50	83
04	04/05/81	8106	6	100.0	66	124
04	07/05/81	8106	16	100.0	35	69
04	20/08/81	8113	2	100.0	20	73
04	23/08/81	8113	7	100.0	57	225
04	23/08/81	8113	8	100.0	67	232
04	24/08/81	8113	9	23.3	43	30
04	26/08/81	8113	22	50.0	30	48
04	20/08/81	8113	4	100.0	18	61
04	24/08/81	8113	14	100.0	5	26
04	24/08/81	8113	10	97.7	176	616
04	24/08/81	8113	11	76.0	25	44
04	24/08/81	8113	12	84.9	192	614
04	24/08/81	8113	13	28.4	141	129
04	25/08/81	8113	15	20.0	215	142
04	25/08/81	8113	16	56.0	75	152
04	25/08/81	8113	17	93.0	67	195
04	25/08/81	8113	18	65.5	55	119
04	26/08/81	8113	19	56.3	16	22
04	26/08/81	8113	20	60.8	148	239
04	26/08/81	8113	21	66.7	6	14
05	22/05/81	8109	9	100.0	15	35
05	23/05/81	8109	10	100.0	60	85
05	23/05/81	8109	11	100.0	7	13
05	25/05/81	8109	20	100.0	49	92
05	26/05/81	8109	21	100.0	20	37
05	26/05/81	8109	22	100.0	83	120
05	26/05/81	8109	23	100.0	79	159
05	26/05/81	8109	24	100.0	28	55
05	26/05/81	8109	25	100.0	8	16
05	15/08/81	8112	7	100.0	3	11
05	15/08/81	8112	8	100.0	4	20
05	16/08/81	8112	14	100.0	2	8

Table 3 (cont'd)

HALIBUT : OBSERVER SAMPLES 1981

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	PROPORTION MEASURED	TOTAL NUMBER OF HALIBUT IN TUN	WEIGHT OF MEASURED HALIBUT (KG)
05	16/08/81	8112	15	100.0	1	3
05	16/08/81	8112	16	100.0	4	16
05	16/08/81	8112	17	100.0	6	24
05	16/08/81	8112	19	100.0	1	4
05	15/08/81	8112	9	73.3	15	58
05	15/08/81	8112	10	71.4	7	36
05	16/08/81	8112	20	66.7	3	9
05	22/05/81	8109	7	100.0	2	1
05	24/05/81	8109	12	100.0	4	3
05	24/05/81	8109	13	100.0	4	9
05	27/05/81	8109	26	100.0	36	104
05	27/05/81	8109	27	100.0	12	92
05	27/05/81	8109	28	100.0	2	15
05	27/05/81	8109	30	100.0	4	54
05	27/05/81	8109	31	100.0	12	23
05	28/05/81	8109	32	100.0	35	184
05	22/05/81	8109	8	50.0	2	9

BUTTER SOLE : OBSERVER SAMPLES 1981

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 08							
04	04/05/81	8106	6	PRE-SORT	106	YES	NO

Table 3 (cont'd)

ROCK SOLE : OBSERVER SAMPLES 1981

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 05							
11	09/06/81	8110	10	PRE-SORT	143	YES	NO
11	09/06/81	8110	10	DISCARD	88	YES	NO
MAJOR= 06							
08	07/06/81	8110	2	PRE-SORT	49	YES	NO
08	12/06/81	8110	28	DISCARDS	32	YES	NO
08	21/07/81	8111	14	DISCARDS	126	YES	NO
08	29/09/81	8117	5	PRE-SORT	94	YES	NO
08	13/06/81	8110	29	DISCARDS	22	YES	NO
08	03/10/81	8117	16	PRE-SORT	134	YES	NO
08	02/10/81	8117	6	DISCARDS	80	YES	NO
08	23/07/81	8111	27	DISCARDS	148	YES	NO
MAJOR= 07							
02	09/04/81	8102	28	PRE-SORT	167	YES	NO
02	09/04/81	8102	29	PRE-SORT	96	YES	NO
02	07/05/81	8107	2	PRE-SORT	80	YES	YES
02	21/05/81	8109	4	PRE-SORT	57	YES	YES
02	25/05/81	8109	15	PRE-SORT	36	YES	NO
02	25/05/81	8109	17	PRE-SORT	29	YES	NO
02	07/05/81	8107	2	DISCARDS	39	YES	YES
02	21/05/81	8109	4	DISCARDS	76	YES	YES
02	25/05/81	8109	17	DISCARDS	39	YES	YES
MAJOR= 08							
04	26/04/81	8105	1	PRE-SORT	80	YES	NO
04	28/04/81	8105	7	PRE-SORT	153	YES	NO
04	29/04/81	8105	11	PRE-SORT	189	YES	NO
04	30/04/81	8105	15	PRE-SORT	189	YES	NO
04	04/05/81	8106	4	PRE-SORT	308	YES	NO
04	04/05/81	8106	7	PRE-SORT	204	YES	NO
04	05/05/81	8106	9	PRE-SORT	238	YES	NO
04	05/05/81	8106	10	PRE-SORT	312	YES	NO
04	06/05/81	8106	12	PRE-SORT	268	YES	NO
04	06/05/81	8106	14	PRE-SORT	284	YES	NO
04	07/05/81	8106	16	PRE-SORT	216	YES	NO
04	05/09/81	8114	11	PRE-SORT	115	YES	NO
04	07/09/81	8114	18	PRE-SORT	77	YES	NO
04	12/09/81	8115	2	KEEPERS	77	YES	NO
04	05/09/81	8114	12	PRE-SORT	150	YES	NO
04	04/09/81	8114	10	DISCARDS	57	YES	NO

Table 3 (cont'd)

ROCK SOLE : OBSERVER SAMPLES 1981

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
05	16/04/81	8103	4	PRE-SORT	26	YES	NO
05	16/04/81	8103	5	PRE-SORT	14	YES	NO
05	16/04/81	8103	6	PRE-SORT	64	YES	NO
05	16/04/81	8103	7	PRE-SORT	14	YES	NO
05	19/04/81	8103	15	PRE-SORT	38	YES	NO
05	19/04/81	8103	16	PRE-SORT	18	YES	NO
05	26/04/81	8104	18	PRE-SORT	117	YES	NO
05	07/05/81	8107	6	PRE-SORT	61	YES	YES
05	08/05/81	8107	8	PRE-SORT	58	YES	YES
05	10/05/81	8107	13	PRE-SORT	71	YES	YES
05	11/05/81	8107	15	PRE-SORT	64	YES	YES
05	11/05/81	8107	16	PRE-SORT	93	YES	YES
05	11/05/81	8107	17	PRE-SORT	69	YES	YES
05	12/05/81	8107	21	PRE-SORT	74	YES	YES
05	22/05/81	8109	7	PRE-SORT	58	YES	YES
05	22/05/81	8109	8	PRE-SORT	72	YES	YES
05	24/05/81	8109	13	PRE-SORT	65	YES	YES
05	27/05/81	8109	26	PRE-SORT	87	YES	NO
05	27/05/81	8109	27	PRE-SORT	92	YES	NO
05	27/05/81	8109	28	PRE-SORT	98	YES	NO
05	07/05/81	8107	6	DISCARDS	40	YES	YES
05	08/05/81	8107	8	DISCARDS	60	YES	YES
05	10/05/81	8107	13	DISCARDS	84	YES	YES
05	11/05/81	8107	15	DISCARDS	93	YES	YES
05	11/05/81	8107	16	DISCARDS	78	YES	YES
05	11/05/81	8107	17	DISCARDS	50	YES	YES
05	12/05/81	8107	21	DISCARDS	77	YES	YES
05	22/05/81	8109	7	DISCARDS	75	YES	YES
05	22/05/81	8109	8	DISCARDS	54	YES	YES
05	24/05/81	8109	13	DISCARDS	79	YES	YES
05	27/05/81	8109	26	DISCARDS	87	YES	YES
05	27/05/81	8109	27	DISCARDS	109	YES	YES
05	27/05/81	8109	28	DISCARDS	107	YES	YES

Table 3 (cont'd)

DOVER SOLE : OBSERVER SAMPLES 1981

	MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBFR SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 07								
	02	13/09/81	8115	9	PRE-SORT	70	YES	NO
MAJOR= 08								
	04	12/09/81	8115	3	PRE-SORT	61	YES	NO
	04	07/09/81	8114	21	KEEPERS	83	YES	NO
	04	03/09/81	8114	2	PRE-SORT	98	YES	NO
	04	17/09/81	8116	5	PRE-SORT	123	YES	NO
	04	19/09/81	8116	7	PRE-SORT	126	YES	NO
	04	19/09/81	8116	8	PRE-SORT	113	YES	NO
	04	04/09/81	8114	7	KEEPERS	87	YES	NO
	04	16/09/81	8116	2	KEEPERS	100	YES	NO
	04	17/09/81	8116	3	KEEPERS	103	YES	NO
	04	17/09/81	8116	6	KEEPERS	97	YES	NO
	04	04/09/81	8114	8	KEEPERS	147	YES	NO
	05	16/08/81	8112	15	PRE-SORT	112	YES	NO
	05	16/08/81	8112	15	DISCARDS	51	YES	YES

Table 3 (cont'd)

ENGLISH SOLE : OBSERVER SAMPLES 1981

	MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 05								
	11	10/03/81	8101	1	PRE-SORT	122	YES	YES
MAJOR= 06								
	08	07/06/81	8110	2	PRE-SORT	65	YES	NO
	08	11/06/81	8110	22	KEEPERS	74	YES	NO
	08	12/03/81	8101	10	PRE-SORT	124	YES	NO
	08	07/06/81	8110	3	PRE-SORT	117	YES	NO
	08	07/06/81	8110	4	PRE-SORT	210	YES	NO
	08	08/06/81	8110	5	PRE-SORT	421	YES	NO
	08	08/06/81	8110	6	PRE-SORT	176	YES	NO
	08	08/06/81	8110	7	PRE-SORT	174	YES	NO
	08	10/06/81	8110	15	PRE-SORT	68	YES	NO
	08	14/06/81	8110	33	PRE-SORT	68	YES	NO
	08	10/06/81	8110	15	DISCARDS	140	YES	NO
	08	10/06/81	8110	16	DISCARDS	128	YES	NO
	08	12/06/81	8110	28	DISCARDS	52	YES	NO
	08	20/07/81	8111	3	PRE-SORT	49	YES	NO
	08	20/07/81	8111	7	PRE-SORT	139	YES	NO
	08	21/07/81	8111	14	DISCARDS	72	YES	NO
	08	01/04/81	8102	5	PRE-SORT	113	YES	YES
	08	01/04/81	8102	6	PRE-SORT	99	YES	YES
	08	03/04/81	8102	10	PRE-SORT	72	YES	YES
	08	07/04/81	8102	17	PRE-SORT	117	YES	NO
	08	07/04/81	8102	18	PRE-SORT	167	YES	NO
	08	07/04/81	8102	19	PRE-SORT	102	YES	NO
	08	08/04/81	8102	22	PRE-SORT	68	YES	NO
	08	13/06/81	8110	31	PRE-SORT	177	YES	NO
	08	13/06/81	8110	29	DISCARDS	79	YES	NO
MAJOR= 07								
	02	24/05/81	8109	14	PRE-SORT	85	YES	NO
	02	25/05/81	8109	15	PRE-SORT	96	YES	NO
	02	25/05/81	8109	17	PRE-SORT	48	YES	NO
	02	24/05/81	8109	14	DISCARDS	83	YES	YES
	02	25/05/81	8109	17	DISCARDS	37	YES	YES
	02	14/08/81	8112	2	PRE-SORT	82	YES	NO
	02	14/08/81	8112	4	PRE-SORT	114	YES	NO

Table 3 (cont'd)

ENGLISH SOLE : OBSERVER SAMPLES 1981

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
02	14/08/81	8112	2	DISCARDS	65	YES	YES
02	14/08/81	8112	4	DISCARDS	89	YES	YES
02	13/09/81	8115	7	PRE-SORT	83	YES	NO
02	13/09/81	8115	8	PRE-SORT	102	YES	NO
06	09/04/81	8102	25	KEEPERS	90	YES	NO
MAJOR= 08							
04	24/04/81	8104	9	PRE-SORT	94	YES	NO
04	24/04/81	8104	10	PRE-SORT	92	YES	NO
04	29/04/81	8105	9	PRE-SORT	316	YES	NO
04	29/04/81	8105	10	PRE-SORT	229	YES	NO
04	24/08/81	8113	9	PRE-SORT	64	YES	NO
04	24/08/81	8113	9	DISCARDS	38	YES	YES
04	12/09/81	8115	4	PRE-SORT	88	YES	NO
04	24/04/81	8104	6	KEEPERS	52	YES	NO
04	10/05/81	8108	7	PRE-SORT	103	YES	NO
04	11/05/81	8108	18	PRE-SORT	150	YES	NO
04	10/05/81	8108	9	KEEPERS	130	YES	NO
04	10/05/81	8108	9	DISCARDS	197	YES	NO
04	25/08/81	8113	15	PRE-SORT	67	YES	NO
04	25/08/81	8113	16	PRE-SORT	73	YES	NO
04	25/08/81	8113	15	DISCARDS	6	YES	YES
04	03/09/81	8114	1	PRE-SORT	221	YES	NO
04	06/09/81	8114	15	PRE-SORT	75	YES	NO
04	07/09/81	8114	20	PRE-SORT	80	YES	NO
04	12/09/81	8115	1	PRE-SORT	108	YES	NO
04	03/09/81	8114	4	KEEPERS	65	YES	NO
04	04/09/81	8114	10	DISCARDS	114	YES	NO
04	10/05/81	8108	10	PRE-SORT	237	YES	NO
04	10/05/81	8108	10	PRE-SORT	240	YES	NO
04	10/05/81	8108	11	PRE-SORT	253	YES	NO
04	11/05/81	8108	13	PRE-SORT	314	YES	NO
04	11/05/81	8108	14	PRE-SORT	289	YES	NO
04	11/05/81	8108	14	KEEPERS	126	YES	NO
04	11/05/81	8108	14	DISCARDS	209	YES	NO
05	15/04/81	8103	1	PRE-SORT	95	YES	NO
05	16/04/81	8103	3	PRE-SORT	105	YES	NO
05	16/04/81	8103	4	PRE-SORT	46	YES	NO
05	16/04/81	8103	5	PRE-SORT	75	YES	NO
05	16/04/81	8103	6	PRE-SORT	61	YES	NO

Table 3 (cont'd)

ENGLISH SOLE : OBSERVER SAMPLES 1981

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
05	16/04/81	8103	7	PRE-SORT	117	YES	NO
05	19/04/81	8103	14	PRE-SORT	90	YES	NO
05	19/04/81	8103	15	PRE-SORT	101	YES	NO
05	19/04/81	8103	16	PRE-SORT	131	YES	NO
05	23/04/81	8104	1	PRE-SORT	125	YES	NO
05	23/04/81	8104	5	PRE-SORT	73	YES	NO
05	25/04/81	8104	11	PRE-SORT	164	YES	NO
05	26/04/81	8104	17	PRE-SORT	135	YES	NO
05	23/04/81	8104	1	DISCARDS	124	YES	NO
05	08/05/81	8107	10	PRE-SORT	89	YES	YES
05	10/05/81	8107	12	PRE-SORT	57	YES	YES
05	23/05/81	8109	10	PRE-SORT	75	YES	YES
05	08/05/81	8107	10	DISCARDS	94	YES	YES
05	10/05/81	8107	12	DISCARDS	73	YES	YES
05	23/05/81	8109	10	DISCARDS	53	YES	YES
05	15/08/81	8112	7	PRE-SORT	81	YES	NO
05	15/08/81	8112	8	PRE-SORT	174	YES	NO
05	16/08/81	8112	16	PRE-SORT	115	YES	NO
05	15/08/81	8112	7	DISCARDS	77	YES	YES
05	15/08/81	8112	8	DISCARDS	95	YES	YES
05	16/08/81	8112	16	DISCARDS	82	YES	YES

Table 4. PACIFIC COD : OBSERVER SAMPLES 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 05							
11	28/03/82	8203	2	PRE-SORT	117	YES	YES
11	23/03/82	8203	3	PRE-SORT	345	YES	NO
11	06/05/82	8206	14	PRE-SORT	335	YES	NO
11	07/05/82	8206	16	PRE-SORT	99	YES	NO
11	14/05/82	8207	17	KEEPERS	84	YES	NO
11	14/05/82	8207	17	DISCARDS	24	YES	YES
11	24/11/82	8216	14	PRE-SORT	85	YES	NO
MAJOR= 06							
08	11/05/82	8207	7	PRE-SORT	95	YES	NO
08	29/03/82	8203	9	KEEPERS	91	YES	NO
08	29/03/82	8203	9	DISCARDS	71	YES	YES
08	04/05/82	8206	6	PRE-SORT	100	YES	NO
08	04/05/82	8206	7	PRE-SORT	127	YES	NO
08	22/06/82	8211	14	KEEPERS	96	YES	NO
08	22/06/82	8211	15	PRE-SORT	73	YES	NO
08	23/06/82	8211	18	PRE-SORT	62	YES	NO
08	23/06/82	8211	19	KEEPERS	83	YES	NO
08	10/05/82	8207	1	PRE-SORT	94	YES	NO
08	10/05/82	8207	2	PRE-SORT	91	YES	NO
MAJOR= 07							
02	28/05/82	8210	9	PRE-SORT	114	YES	NO
02	28/05/82	8210	7	DISCARDS	110	YES	YES
02	28/05/82	8210	9	DISCARDS	97	YES	NO
02	22/11/82	8216	7	PRE-SORT	94	YES	NO
MAJOR= 08							
04	03/04/82	8204	1	KEEPERS	58	YES	NO
04	13/05/82	8208	5	PRE-SORT	105	YES	YES
04	13/05/82	8208	7	PRE-SORT	110	YES	NO
04	14/05/82	8208	9	PRE-SORT	90	YES	NO
04	14/05/82	8208	12	PRE-SORT	86	YES	NO

Table 4 (cont'd)

PACIFIC COD : OBSERVER SAMPLES, 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
04	16/05/82	8208	18	PRE-SORT	96	YES	YES
04	13/09/82	8214	6	PRE-SORT	61	YES	NO
04	17/02/82	8201	13	KEEPERS	15	YES	NO
04	22/03/82	8202	7	PRE-SORT	101	YES	NO
04	22/07/82	8212	4	PRE-SORT	150	YES	NO
04	22/07/82	8212	7	PRE-SORT	90	YES	NO
04	23/07/82	8212	10	PRE-SORT	150	YES	NO
04	24/07/82	8212	15	PRE-SORT	128	YES	NO
04	25/07/82	8212	21	PRE-SORT	137	YES	NO
04	14/09/82	8214	10	PRE-SORT	64	YES	NO
04	14/09/82	8214	12	PRE-SORT	73	YES	NO
04	17/09/82	8214	29	PRE-SORT	94	YES	NO
04	17/09/82	8214	31	PRE-SORT	67	YES	NO
04	18/09/82	8214	33	PRE-SORT	73	YES	NO
04	18/09/82	8214	34	PRE-SORT	85	YES	NO
04	19/09/82	8214	38	PRE-SORT	53	YES	NO
04	19/09/82	8214	39	PRE-SORT	79	YES	NO
04	15/02/82	8201	3	PRE-SORT	67	YES	NO
05	23/03/82	8202	10	PRE-SORT	203	YES	YES
05	23/03/82	8202	11	PRE-SORT	107	YES	NO
05	25/03/82	8202	13	PRE-SORT	198	YES	NO
05	26/03/82	8202	16	PRE-SORT	170	YES	NO
05	26/03/82	8202	17	PRE-SORT	168	YES	NO
05	23/03/82	8202	10	KEEPERS	31	YES	YES
05	04/04/82	8204	5	PRE-SORT	192	YES	NO
05	05/04/82	8204	11	PRE-SORT	221	YES	NO
05	08/04/82	8205	8	KEEPERS	73	YES	NO
05	08/04/82	8205	9	KEEPERS	88	YES	NO
05	08/04/82	8205	10	KEEPERS	86	YES	NO
05	09/04/82	8205	14	KEEPERS	121	YES	NO
05	22/05/82	8209	8	PRE-SORT	66	YES	NO
05	22/05/82	8209	8	DISCARDS	15	YES	NO
05	25/05/82	8209	21	DISCARDS	30	YES	NO
05	21/11/82	8216	3	PRE-SORT	127	YES	NO
05	04/04/82	8204	8	PRE-SORT	78	YES	NO

Table 4 (cont'd)

POLLOCK : OBSERVER SAMPLES 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 08							
04	18/03/82	8202	2	DISCARDS	85	YES	YES

PACIFIC OCEAN PERCH : OBSERVER SAMPLES 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 06							
08	10/05/82	8206	27	PRE-SORT	207	YES	NO
08	09/05/82	8206	23	KEEPERS	231	YES	NO

SABLEFISH : OBSERVER SAMPLES 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 08							
05	07/04/82	8204	22	PRE-SORT	164	YES	NO
05	20/05/82	8209	1	PRE-SORT	68	YES	YES
05	20/05/82	8209	4	PRE-SORT	88	YES	YES
05	24/05/82	8209	13	PRE-SORT	50	YES	YES
05	24/05/82	8209	15	PRE-SORT	71	YES	YES
05	24/05/82	8209	18	PRE-SORT	99	YES	YES
05	30/05/82	8210	18	PRE-SORT	72	YES	YES
05	30/05/82	8210	19	PRE-SORT	93	YES	YES
05	31/05/82	8210	23	PRE-SORT	109	YES	YES
05	20/11/82	8216	1	PRE-SORT	116	YES	NO

Table 4 (cont'd)

LINGCOD : OBSERVER SAMPLES 1982

MAJOR= 06	MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
	08	11/05/82	8207	6	PRE-SORT	75	YES	NO
	08	11/05/82	8206	30	PRE-SORT	98	YES	NO
	08	12/05/82	8207	10	PRE-SORT	48	YES	NO
	08	26/03/82	8203	1	PRE-SORT	33	YES	YES

REX SOLE : OBSERVER SAMPLES 1982

MAJOR= 08	MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
	05	30/05/82	8210	17	PRE-SORT	100	YES	YES

Table 4 (cont'd)

HALIBUT : OBSERVER SAMPLES 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	PROPORTION MEASURED	TOTAL NUMBER OF HALIBUT IN TOW	WEIGHT OF MEASURED HALIBUT (KG)
MAJOR= 05						
11	28/03/82	8203	6	100.0	20	63
11	29/03/82	8203	7	100.0	7	35
11	10/04/82	8204	34	100.0	270	878
11	06/05/82	8206	13	100.0	6	23
11	06/05/82	8206	15	100.0	19	78
11	07/05/82	8206	16	100.0	28	113
11	07/05/82	8206	17	100.0	5	27
11	07/05/82	8206	18	100.0	7	50
11	08/05/82	8206	19	100.0	5	23
11	08/05/82	8206	21	100.0	6	35
11	09/05/82	8206	22	100.0	4	28
11	15/05/82	8207	21	100.0	2	5
11	15/05/82	8207	22	100.0	1	5
11	15/05/82	8207	24	100.0	13	32
11	24/11/82	8216	14	100.0	14	33
11	24/11/82	8216	15	100.0	4	11
11	24/11/82	8216	16	100.0	10	27
11	24/11/82	8216	17	100.0	2	5
MAJOR= 06						
08	10/05/82	8206	26	100.0	1	96
08	10/05/82	8206	28	100.0	4	27
08	11/05/82	8207	4	100.0	12	38
08	11/05/82	8206	29	100.0	13	54
08	11/05/82	8206	30	100.0	3	24
08	29/03/82	8203	9	100.0	8	23
08	29/03/82	8203	10	100.0	5	15
08	29/03/82	8203	11	100.0	2	6
08	30/03/82	8203	12	100.0	39	115
08	04/05/82	8206	6	100.0	5	30
08	04/05/82	8206	7	100.0	8	44
08	04/05/82	8206	8	100.0	32	121
08	04/05/82	8206	9	100.0	24	144
08	05/05/82	8206	10	100.0	5	22
08	12/05/82	8207	10	100.0	9	27
08	12/05/82	8207	11	66.7	21	42
08	23/06/82	8211	17	17.4	195	65
08	24/06/82	8211	22	12.3	400	131
08	24/06/82	8211	26	9.4	360	65
08	24/06/82	8211	27	13.8	240	96
08	30/03/82	8203	14	100.0	20	81
08	03/05/82	8206	4	100.0	26	133

Table 4 (cont'd)

HALIBUT : OBSERVER SAMPLES 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	PROPORTION MEASURED	TOTAL NUMBER OF HALIBUT IN TOW	WEIGHT OF MEASURED HALIBUT (KG)
08	21/06/82	8211	7	100.0	39	118
08	21/06/82	8211	10	21.8	197	195
MAJOR= 07						
02	31/03/82	8203	15	100.0	31	79
02	31/03/82	8203	16	100.0	45	113
02	31/03/82	8203	17	100.0	8	134
02	31/03/82	8203	18	100.0	67	144
02	07/04/82	8204	24	100.0	99	195
02	28/05/82	8210	5	100.0	18	57
02	28/05/82	8210	6	100.0	5	68
02	28/05/82	8210	10	100.0	3	11
02	28/05/82	8210	12	100.0	5	11
02	28/05/82	8210	13	100.0	2	6
02	29/05/82	8210	14	100.0	11	22
02	29/05/82	8210	15	100.0	1	2
02	04/06/82	8213	1	100.0	35	157
02	04/06/82	8213	2	100.0	8	19
02	04/06/82	8213	3	100.0	18	46
02	04/06/82	8213	4	100.0	9	30
02	04/06/82	8213	5	100.0	2	6
02	04/06/82	8213	6	100.0	2	4
02	04/06/82	8213	7	100.0	7	11
02	07/06/82	8213	15	100.0	6	14
02	07/06/82	8213	16	100.0	6	20
02	07/06/82	8213	17	100.0	3	7
02	07/06/82	8213	19	100.0	19	37
02	08/06/82	8213	20	100.0	1	4
02	08/06/82	8213	21	100.0	1	2
02	08/06/82	8213	22	100.0	4	13
02	08/06/82	8213	23	100.0	3	12
02	08/06/82	8213	25	100.0	1	4
02	09/06/82	8213	27	100.0	7	25
02	09/06/82	8213	28	100.0	1	4
02	09/06/82	8213	29	100.0	2	8
02	09/06/82	8213	30	100.0	8	29
02	09/06/82	8213	31	100.0	4	8
02	09/06/82	8213	32	100.0	20	48
02	26/09/82	8215	19	100.0	13	104
02	26/09/82	8215	20	100.0	8	62
02	27/09/82	8215	24	100.0	2	6
02	21/11/82	8216	6	100.0	6	23
02	22/11/82	8216	7	100.0	4	10

Table 4 (cont'd)

HALIBUT : OBSERVER SAMPLES 1982

	MINOR AREA	HAUL DATE	TRIP CODE	HAUL	PROPORTION MEASURED	TOTAL NUMBER OF HALIBUT IN TOW	WEIGHT OF MEASURED HALIBUT (KG)
MAJOR= 07							
	02	22/11/82	8216	8	100.0	3	6
	02	22/11/82	8216	10	100.0	2	8
	02	23/11/82	8216	11	100.0	10	23
	02	23/11/82	8216	12	100.0	3	13
	02	23/11/82	8216	13	100.0	1	2
MAJOR= 08							
	04	22/03/82	8202	8	100.0	8	9
	04	12/05/82	8208	4	100.0	39	75
	04	13/05/82	8208	6	100.0	46	107
	04	13/05/82	8208	8	100.0	48	101
	04	14/05/82	8208	10	100.0	60	135
	04	14/05/82	8208	11	100.0	46	115
	04	15/05/82	8208	13	100.0	27	59
	04	15/05/82	8208	14	100.0	41	105
	04	15/05/82	8208	15	100.0	33	70
	04	15/05/82	8208	17	100.0	99	215
	04	16/05/82	8208	19	100.0	55	108
	04	25/09/82	8215	14	100.0	11	33
	04	27/09/82	8215	22	100.0	9	64
	04	16/02/82	8201	8	100.0	66	205
	04	17/02/82	8201	12	100.0	79	252
	04	19/02/82	8201	16	100.0	40	183
	04	21/02/82	8201	21	100.0	107	247
	04	18/03/82	8202	4	100.0	4	9
	04	03/04/82	8204	4	100.0	60	176
	04	07/04/82	8205	4	100.0	53	127
	04	10/04/82	8205	20	100.0	25	98
	04	21/07/82	8212	2	100.0	121	364
	04	23/07/82	8212	11	100.0	128	382
	04	24/07/82	8212	14	100.0	86	276
	04	24/07/82	8212	16	100.0	76	224
	04	25/07/82	8212	19	100.0	40	142
	04	18/09/82	8214	34	100.0	9	9
	04	23/09/82	8215	1	100.0	8	51
	04	12/09/82	8214	4	UNKNOWN	UNKNOWN	124
	04	14/09/82	8214	12	68.0	25	34
	04	16/09/82	8214	27	UNKNOWN	UNKNOWN	85
	04	17/09/82	8214	30	UNKNOWN	UNKNOWN	95
	04	23/09/82	8215	2	UNKNOWN	UNKNOWN	28
	04	23/09/82	8215	5	39.6	53	36
	04	15/02/82	8201	4	100.0	7	22
	04	15/09/82	8214	19	100.0	4	10

Table 4 (cont'd)

HALIBUT : OBSERVER SAMPLES 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	PROPORTION MEASURED	TOTAL NUMBER OF HALIBUT IN TOW	WEIGHT OF MEASURED HALIBUT (KG)
04	15/09/82	8214	20	100.0	1	3
04	16/09/82	8214	23	100.0	1	12
04	16/09/82	8214	24	100.0	2	15
04	16/09/82	8214	25	100.0	24	100
04	16/09/82	8214	26	100.0	53	296
04	15/09/82	8214	17	100.0	13	41
04	15/09/82	8214	18	100.0	26	109
04	16/09/82	8214	22	UNKNOWN	UNKNOWN	249
05	24/03/82	8202	12	100.0	1	2
05	26/03/82	8202	16	100.0	4	17
05	26/03/82	8202	18	100.0	6	3
05	05/04/82	8204	11	100.0	31	78
05	05/04/82	8204	12	100.0	25	51
05	05/04/82	8204	13	100.0	15	30
05	05/04/82	8204	14	100.0	13	28
05	06/04/82	8204	20	100.0	51	171
05	07/04/82	8204	21	100.0	36	108
05	07/04/82	8204	22	100.0	23	66
05	08/04/82	8205	8	100.0	6	9
05	08/04/82	8205	12	100.0	3	7
05	20/05/82	8209	3	88.9	9	21
05	22/05/82	8209	7	100.0	6	38
05	22/05/82	8209	9	100.0	18	53
05	22/05/82	8209	10	100.0	7	19
05	24/05/82	8209	12	100.0	9	32
05	24/05/82	8209	13	100.0	4	7
05	24/05/82	8209	14	100.0	11	26
05	24/05/82	8209	15	100.0	54	172
05	24/05/82	8209	16	97.7	43	130
05	24/05/82	8209	18	100.0	6	20
05	25/05/82	8209	19	100.0	13	34
05	25/05/82	8209	20	100.0	10	21
05	27/05/82	8210	1	100.0	5	13
05	27/05/82	8210	2	100.0	6	27
05	27/05/82	8210	3	100.0	4	13
05	30/05/82	8210	16	100.0	3	10
05	30/05/82	8210	17	100.0	3	10
05	30/05/82	8210	19	100.0	5	10
05	31/05/82	8210	21	100.0	2	5
05	31/05/82	8210	22	100.0	3	13
05	31/05/82	8210	24	100.0	1	2
05	30/05/82	8210	18	66.7	3	6
05	06/06/82	8213	12	100.0	1	4

Table 4 (cont'd)

HALIBUT : OBSERVER SAMPLES 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	PROPORTION MEASURED	TOTAL NUMBER OF HALIBUT IN TOW	WEIGHT OF MEASURED HALIBUT (KG)
05	06/06/82	8213	13	100.0	1	5
05	28/09/82	8215	26	100.0	3	3
05	20/11/82	8216	1	100.0	70	161
05	21/11/82	8216	3	100.0	21	39
05	21/11/82	8216	4	100.0	14	37
05	27/05/82	8210	4	100.0	1	1

BUTTER SOLE : OBSERVER SAMPLES 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
04	15/02/82	8201	3	DISCARDS	99	YES	YES

MAJOR= 08

Table 4 (cont'd)

ROCK SOLE : OBSERVER SAMPLES 1982

	MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 05								
	11	20/06/82	8211	1	PRE-SORT	93	YES	YES
	11	27/06/82	8211	39	PRE-SORT	77	YES	YES
MAJOR= 06								
	08	23/06/82	8211	17	PRE-SORT	94	YES	YES
	08	23/06/82	8211	21	PRE-SORT	135	YES	YES
	08	24/06/82	8211	22	PRE-SORT	212	YES	YES
	08	21/06/82	8211	11	PRE-SORT	202	YES	YES
	08	21/06/82	8211	7	KEEPERS	67	YES	NO
	08	21/06/82	8211	10	KEEPERS	82	YES	NO
MAJOR= 07								
	02	31/03/82	8203	16	KEEPERS	135	YES	NO
	02	31/03/82	8203	18	KEEPERS	85	YES	NO
	02	31/03/82	8203	16	DISCARDS	112	YES	YES
	02	07/04/82	8204	23	KEEPERS	117	YES	NO
	02	07/04/82	8204	23	DISCARDS	209	YES	NO
	02	08/04/82	8204	27	DISCARDS	176	YES	NO
	02	28/05/82	8210	5	PRE-SORT	70	YES	NO
	02	28/05/82	8210	5	DISCARDS	91	YES	YES
	02	23/11/82	8216	11	KEEPERS	154	YES	YES
MAJOR= 08								
	05	21/11/82	8216	3	PRE-SORT	158	YES	NO
	05	21/11/82	8216	4	PRE-SORT	102	YES	YES
	05	22/05/82	8209	11	DISCARDS	36	YES	YES
	05	21/11/82	8216	5	PRE-SORT	95	YES	NO

Table 4 (cont'd)

DOVER SOLE : OBSERVER SAMPLES 1982

	MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 06								
	08	20/06/82	8211	3	PRE-SORT	120	YES	YES
MAJOR= 08								
	04	14/09/82	8214	15	PRE-SORT	56	YES	NO
	04	15/09/82	8214	16	PRE-SORT	74	YES	NO
	04	15/09/82	8214	18	PRE-SORT	61	YES	NO
	04	15/09/82	8214	19	PRE-SORT	79	YES	NO
	04	16/09/82	8214	23	PRE-SORT	89	YES	NO
	04	24/09/82	8215	9	PRE-SORT	51	YES	YES

Table 4 (cont'd)

ENGLISH SOLE : OBSERVER SAMPLES 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
MAJOR= 05							
11	13/05/82	8207	13	PRE-SORT	124	YES	YES
11	13/05/82	8207	14	PRE-SORT	93	YES	YES
11	13/05/82	8207	15	PRE-SORT	110	YES	YES
11	14/05/82	8207	19	PRE-SORT	107	YES	YES
11	15/05/82	8207	21	PRE-SORT	64	YES	YES
11	25/06/82	8211	31	PRE-SORT	168	YES	YES
11	26/06/82	8211	33	PRE-SORT	181	YES	YES
11	26/06/82	8211	36	PRE-SORT	82	YES	YES
11	27/06/82	8211	40	PRE-SORT	128	YES	YES
MAJOR= 06							
08	11/05/82	8206	29	PRE-SORT	176	YES	YES
08	24/06/82	8211	25	PRE-SORT	91	YES	YES
08	22/06/82	8211	13	DISCARDS	173	YES	YES
08	24/06/82	8211	24	DISCARDS	128	YES	YES
08	26/03/82	8203	1	PRE-SORT	225	YES	YES
08	30/03/82	8203	14	PRE-SORT	176	YES	YES
08	03/05/82	8206	4	PRE-SORT	132	YES	NO
08	10/05/82	8207	3	PRE-SORT	122	YES	YES
MAJOR= 07							
02	31/03/82	8203	17	PRE-SORT	187	YES	YES
02	31/03/82	8203	19	PRE-SORT	163	YES	YES
02	21/11/82	8216	6	PRE-SORT	102	YES	YES
02	23/11/82	8216	12	PRE-SORT	133	YES	YES
02	21/11/82	8216	6	DISCARDS	67	YES	YES
MAJOR= 08							
04	22/03/82	8202	5	PRE-SORT	61	YES	YES
04	22/03/82	8202	5	KEEPERS	69	YES	NO
04	22/03/82	8202	5	DISCARDS	86	YES	YES
04	03/04/82	8204	2	PRE-SORT	181	YES	YES
04	11/04/82	8205	21	PRE-SORT	140	YES	NO
04	11/04/82	8205	22	PRE-SORT	288	YES	YES
04	03/04/82	8204	1	KEEPERS	149	YES	YES
04	03/04/82	8204	3	KEEPERS	158	YES	YES
04	15/05/82	8208	16	PRE-SORT	100	YES	NO
04	15/05/82	8208	16	DISCARDS	81	YES	YES
04	13/09/82	8214	7	PRE-SORT	82	YES	YES
04	13/09/82	8214	8	PRE-SORT	80	YES	YES
04	25/09/82	8215	15	PRE-SORT	74	YES	YES
04	17/02/82	8201	11	PRE-SORT	126	YES	YES
04	17/02/82	8201	13	PRE-SORT	78	YES	YES

Table 4 (cont'd)

ENGLISH SOLE : OBSERVER SAMPLES 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
04	19/02/82	8201	15	PRE-SORT	127	YES	YES
04	20/02/82	8201	18	PRE-SORT	104	YES	YES
04	21/02/82	8201	20	PRE-SORT	112	YES	YES
04	23/02/82	8202	9	PRE-SORT	85	YES	NO
04	16/02/82	8201	6	KEEPERS	107	YES	NO
04	16/02/82	8201	7	KEEPERS	108	YES	NO
04	16/02/82	8201	8	KEEPERS	72	YES	NO
04	19/02/82	8201	15	KEEPERS	65	YES	NO
04	19/02/82	8201	17	KEEPERS	94	YES	NO
04	21/02/82	8201	21	KEEPERS	50	YES	NO
04	20/02/82	8201	19	DISCARDS	56	YES	YES
04	21/02/82	8201	22	DISCARDS	50	YES	YES
04	18/03/82	8202	4	KEEPERS	143	YES	NO
04	22/03/82	8202	6	KEEPERS	150	YES	NO
04	23/03/82	8202	9	KEEPERS	61	YES	NO
04	22/03/82	8202	6	DISCARDS	50	YES	YES
04	23/03/82	8202	9	DISCARDS	123	YES	NO
04	06/04/82	8205	1	PRE-SORT	81	YES	YES
04	07/04/82	8205	5	PRE-SORT	119	YES	YES
04	10/04/82	8205	19	PRE-SORT	106	YES	YES
04	10/04/82	8205	20	PRE-SORT	96	YES	YES
04	23/07/82	8212	9	PRE-SORT	335	YES	YES
04	24/07/82	8212	13	PRE-SORT	227	YES	YES
04	14/09/82	8214	10	PRE-SORT	77	YES	YES
04	14/09/82	8214	11	PRE-SORT	82	YES	YES
04	14/09/82	8214	12	PRE-SORT	74	YES	YES
04	17/09/82	8214	28	PRE-SORT	74	YES	YES
04	23/09/82	8215	2	PRE-SORT	73	YES	YES
04	24/09/82	8215	6	PRE-SORT	61	YES	YES
04	15/02/82	8201	4	PRE-SORT	142	YES	YES
04	14/02/82	8201	2	DISCARDS	39	YES	YES
05	14/02/82	8201	1	PRE-SORT	112	YES	YES
05	27/03/82	8202	19	PRE-SORT	73	YES	YES
05	27/03/82	8202	19	KEEPERS	65	YES	NO
05	25/03/82	8202	13	DISCARDS	71	YES	YES
05	27/03/82	8202	19	DISCARDS	51	YES	NO
05	06/04/82	8204	18	PRE-SORT	165	YES	YES
05	10/04/82	8205	18	PRE-SORT	85	YES	YES
05	10/04/82	8205	18	KEEPERS	64	YES	NO
05	07/04/82	8204	21	DISCARDS	201	YES	YES
05	10/04/82	8205	18	DISCARDS	82	YES	NO
05	22/05/82	8209	7	PRE-SORT	83	YES	NO
05	24/05/82	8209	12	PRE-SORT	90	YES	NO
05	25/05/82	8209	20	PRE-SORT	107	YES	NO
05	20/05/82	8209	5	DISCARDS	106	YES	YES
05	22/05/82	8209	7	DISCARDS	67	YES	YES

Table 4 (cont'd)

ENGLISH SOLE : OBSERVER SAMPLES 1982

MINOR AREA	HAUL DATE	TRIP CODE	HAUL	SAMPLE TYPE	NUMBER SAMPLE	LENGTH RECORDED	SEX RECORDED
05	24/05/82	8209	12	DISCARDS	102	YES	YES
05	25/05/82	8209	20	DISCARDS	115	YES	YES
05	28/09/82	8215	26	PRE-SORT	83	YES	YES
05	20/11/82	8216	1	PRE-SORT	235	YES	YES

POOR

QUALITY

ORIGINAL

